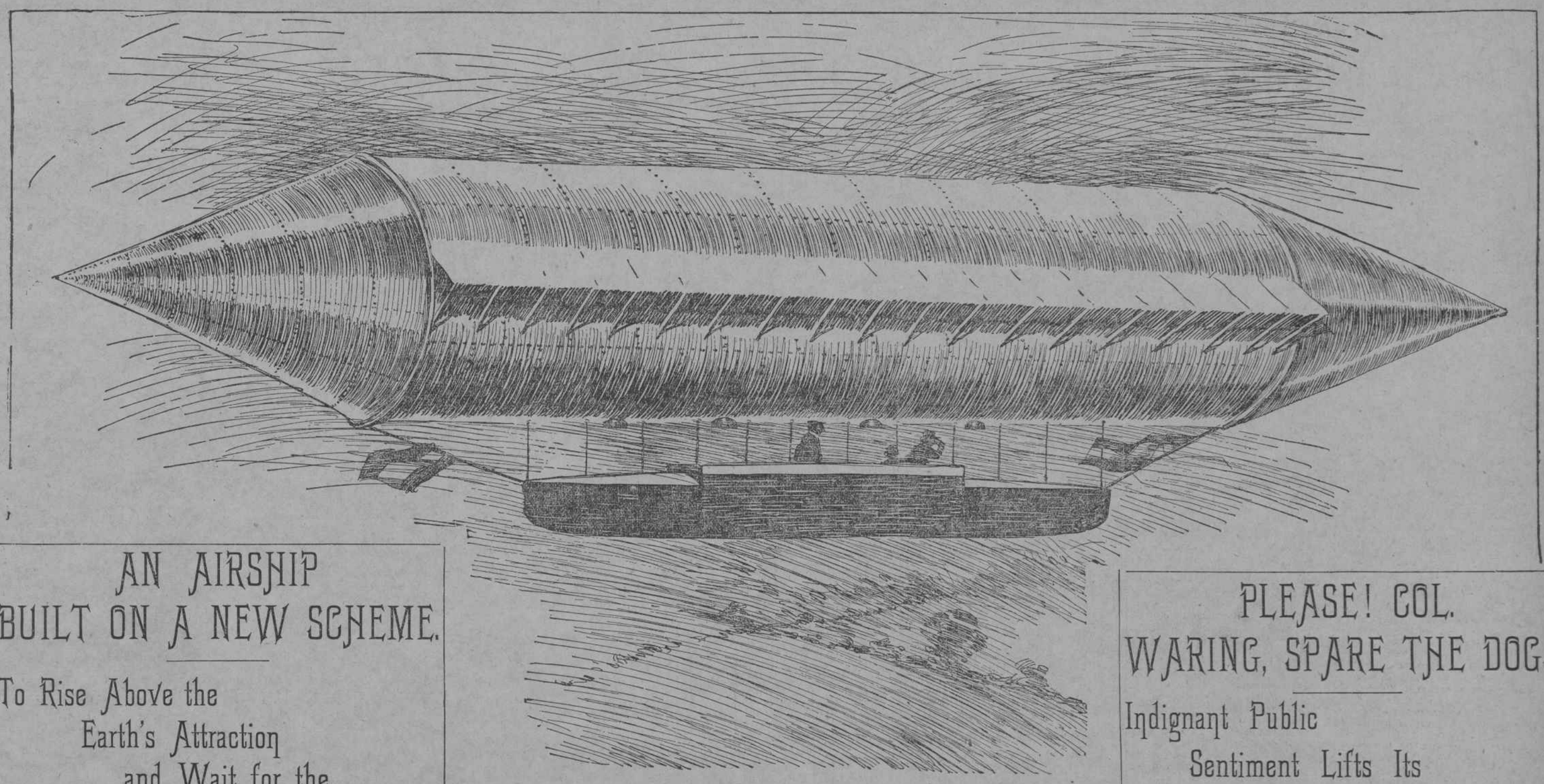
THE NEW AIRSHIP DESIGNED TO CARRY THIRTY TONS OF DYNAMITE.



AN AIRSHIP BUILT ON A NEW SCHEME.

To Rise Above the Earth's Attraction and Wait for the Globe to Roll Around.

CONGRESS ASKED TO BUILD A SHIP FOR TRIAL.

An invention that not only solves the problem of aerial navigation, but practically annihilates distance, has been under consideration by the United States Government. It has received the approval of naval officers and other Government officials. The inventor is Dr. Arthur de Bausset.

The strikingly novel principle involved in this invention is that it employs the motion of the earth in its service. Every other known form of locomotion is a struggle against the forces of nature. The railway train is hindered in its progress by the force of gravitation and by the atmosphere, and in the case of the steamship the ocean is added to these obstructions.

It is plain that a vehicle, which will not only avoid wasting its energies in opposing these great forces, but will make use of the rotary motion of the earth, will be an incalculable advance upon anything now in use. Such a marvel is what we are promised, and in these days of photographing through brick walls and other wonders surely no one will venture to reject such a possibility without due investigation.

TO DESTROY FLEETS.

Every civilized government is now occupied with the question of air navigation. It is of pressing importance from the military point of view. A fleet would be at the mercy of an air-ship which could pass over it—in the darkness perhaps—and drop high explosives on the decks of the ships. A city would, if possible, be in still greater danger. It would be under the airship a vast and immovable mark, not to be missed.

It has just been announced that the German Government has an efficient navigable air ship at its command, and that France is similarly provided. A considerable amount of secrecy is, of course, preserved with regard to the details of these inventions, but the reports leave little doubt that the question of constructing a dirigible air vessel is to a certain extent practically solved.

A committee of our own House of Representatives went so far as to recommend the appropriation of $150,000 for the construction of a De Bausset airship. The bill was shelved in Congress, but the naval and military authorities of the United States are vigilantly watching the problem, and they will force the adoption of the De Baussest or some other plan.

At the time of the investigation by the House the De Bausset plan was declared to be the best.

BEYOND THE FORCE OF GRAVITATION.

Dr. de Bausset's airship is, roughly speaking, a hollow steel cylinder, from which the air is exhausted. The vacuum provides the ascending power. The ship would have a lifting power of thirty-two tons, after deducting the weight of the steel envelope and all the essential machinery. That weight of men and weapons could be carried, and it is easy to calculate how great a destructive force could be employed.

Dr. de Bausset thus explains the novel principle in aerial navigation which he proposes to use:

"It is known that the force of gravity becomes less as the distance from the earth becomes greater. By exhausting three-quarters of the air in his ship it would rise to the height of four miles, and at that height the force of gravity is greatly lessened. The earth does not exert the same power to carry an object with it as it does nearer the surface.

ROUND THE WORLD WITHOUT MOVING.

"The earth revolves on its own axis once in twenty-four hours. If one could rise beyond the attraction of gravitation one could go round the earth in a day without moving. That is not exactly what Dr. de Bausset proposes to do, but the same idea is involved.

The altitude of four miles may in time be exceeded. The higher the vessel goes the less will become the attraction of gravitation, until it finally ceases. It may therefore be possible eventually to go round the earth without moving, or, rather, to let the earth do its own travelling while we wait for the right spot to come round.

At the four miles limit not only would the attraction of gravitation be lessened, but the region of trade winds would be passed.

Dr. de Bausset says that above the four mile limit there is a westward current. The earth rotates from west to east. Thus aerial travel would be very rapid in a westward direction.

It would be possible to travel from New York to San Francisco in a day. To go from San Francisco to New York would require a few hours more.

From this indication it will be seen that to make most of the journeys necessary in warfare will be a matter of a few hours. It would be possible to meet a British fleet half way across the Atlantic in five hours and annihilate it with explosives.

OMNIPRESENT STRENGTH.

The airship would make it possible for a nation to exert its strength in any part of the globe. The English could no longer say, "We are safe from attack in our little island, because it takes too long to convey an invading army across the ocean." A nation such as America, possessing the science, the men and the money, could send an irresistible flying force to punish within a few hours any offence of the British against the welfare of the Western Hemisphere. Physical strength would be as movable as money now is.

It will now be interesting to give some details of the construction of the De Bausset airship. The dimensions, weight, etc., of the steel cone-cylinder from which the air is to be exhausted will be as follows:

Length of cylinder, 524.8 feet; length of cones (at each end of the cylinder), 124.64 feet; diameter of cylinder, 144.32 feet; area of cylinder, 237,976.77 square feet; area of two cones, 65,443.61 square feet; total area of cone-cylinder, 303,420.38 square feet; capacity of cone-cylinder, 9,942,105 cubic feet; weight of air contained in cone-cylinder, 400.8 tons; weight of material, 218 tons; thickness of steel envelope of cylinder, 1-44 inch.

TO LIFT THIRTY-TWO TONS.

Calculating that the 400.8 tons of air in the cylinder is exhausted and that a vacuum exists there, the vessel would have an ascensional lift of 182.8 tons at one full atmosphere pressure, or 14.7 pounds pressure to the square inch. De Bausset further calculates that for practical purposes it would be necessary to exhaust but three-quarters of the air from the vessel, and so, deducting from 182.8 tons ascensional power one-fourth the weight of air in the cylinder and the weight of the car to be swung beneath it, he would have an ascensional power equal to 32 tons.

The tendency of such a cylinder to collapse on account of the atmospheric pressure would be very great, but the inventor proposes to overcome this by a clever system of internal braces, constructed on the plan of arches. Engineers who have examined his plans say that he has secured the greatest possible strength and rigidity for the least possible weight, and that the cylinder would be more than sufficiently strong. He proposes to build the envelope of steel of 1-44th of an inch in thickness, and a tensile strength of 133,000 pounds per square inch. He also proposes to put at either side of the cylinder wings, or parachutes, to prevent its oscillating, and to swing beneath it a car 425 feet long by 20 feet deep and 20 feet wide.

MODE OF PROPULSION.

The method of rising from the earth being obtained, a means of propulsion is next to be considered. This Dr. De Bausset has provided for in fourteen propelling screws, each 48 inches in diameter, to be arranged beneath the cylinder and on the car. These he would rotate at from 100 to 1,500 revolutions per minute. He has so devised these screws that they will also act as rudders. Seventy horse-power would be ample to work them so that the vessel would move at a rate of seventy miles per hour.

To obtain this power there are several means possible. The electric storage battery might be used, but the designer thinks it too heavy for the purpose, although constant improvement is making in it, greatly reducing the weight of the cells for a given amount of power. A new gas engine has recently been perfected, which, it is believed, will be admirably adapted for the purpose, as it gives great power for small weight.

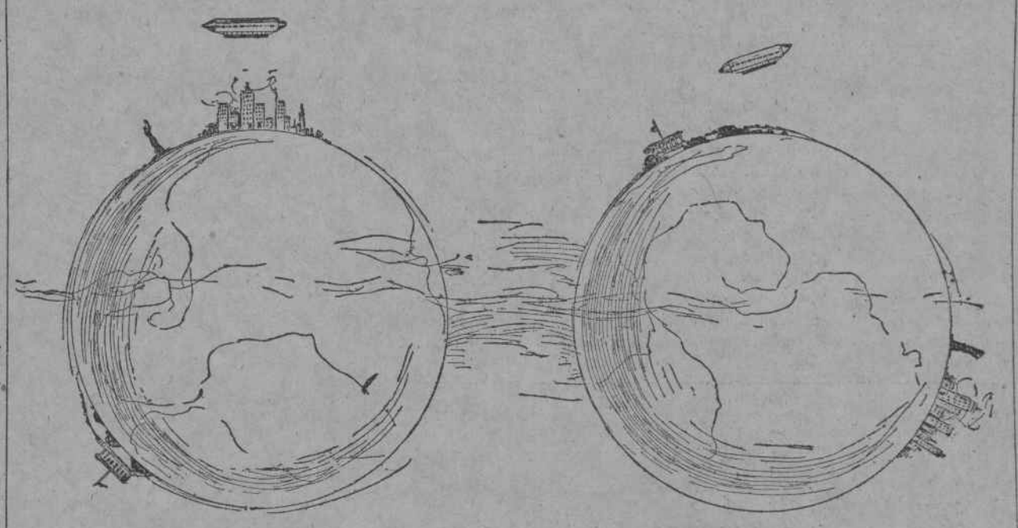
SCIENTISTS WHO APPROVE OF IT.

George W. Melville, Chief Engineer of the Navy, was one of the officials whom Dr. De Bausset quotes as having approved of his design.

Lieutenant John Finley, of the navy, a weather expert, has pointed out that the De Bausset airship would be of great value in studying weather phenomena. We are at the bottom of an atmospheric sea. In order to understand what is going on in that sea it would be desirable to know something about the conditions at the top of that sea.

The variation of temperature and humidity, according to the distance from the earth's surface, are two things about which we know little. Aerial navigation would enable us to study these things.

Barometric observations would be taken at the top of the atmospheric sea. No doubt the weather could then be accurately foretold.



Showing How the Airship Will Travel from New York to San Francisco by Simply Waiting for the Earth to Revolve.

GERMS LURK IN BOOKS

Dangers of Contagion That Have Been Proved by Some Recent Experiments in Paris.

In these days of germs no one need be surprised at the discovery, recently announced by two prominent French doctors, that a considerable proportion of the diseases that exist in large cities may be traced to the use of books in public libraries. At a late sitting of the Academy of Medicine of Paris, Drs. Cazal and Catrin declared that the risk of contagion by the use of books which have been in the hands of persons suffering from infectious diseases is very great. They described a number of experiments by which the truth of this statement was established.

It is really not surprising that books which are taken out of a public library and carried home by persons in all walks of life and of various conditions of health and cleanliness would become in the course of time fruitful sources of disease. And the danger is still further increased by the habit many persons have of moistening their fingers with their lips when turning over the leaves. One of the surest ways of transmitting disease germs is by means of the saliva.

Any one who has visited a public library and who has observed the manners and conduct of the readers will not be surprised at the statement that fully 75 per cent are addicted to this dangerous habit.

"Among skilled artisans," says a scientific writer on the subject, "it (the habit) is well-nigh universally prevalent, although the manual dexterity they are bound to have acquired might be supposed to render it unnecessary. Persons whose tactile sensibility is not very acute, for lack of cultivation, may be excused if they find it difficult to separate the leaves of a new book, especially when the paper is thin. With such a damp finger and thumb are almost a necessity, and if small sponges, saturated with some harmless anti-septic fluid, and fixed in suitable receptacles, could be provided for them in reading rooms, they would no doubt be grateful."

The trouble with this method is that most persons would probably either forget to use the sponges, or if they did use them, they would likely find the taste of the anti-septic disagreeable, and would soon give it up. B. H. Sherard, another commentator on the subject of "Books as Disseminators of Disease," suggests a radical remedy. His advice to studious people is never to borrow books, but for each man and woman to buy his or her own copy."

Drs. Cazal and Catrin have made a careful microscopic examination of the leaves, especially at the corners, of public library volumes. And the results were extremely interesting. The margins were found to be alive with germs, many of which were of the harmful type. The most common sort discovered were those of pneumonia and diphtheria.

Securing some leaves containing these germs, an effort was made to transmit the maladies of which they were the essence to various animals. The leaves were soaked in bouillon, which was then inoculated into the veins, and in each instance the animals were attacked by either one or the other of the maladies. Some of the innocent creatures suffered keenly and died. The experiment was, therefore, regarded as most satisfactory.

In regard to the matter of disinfecting books that had become charged with the germs, the doctors showed that the exposure of some books to high pressure steam yielded good results, the disinfection being perfect and complete. But in the case of bound books the steam had a very destructive effect, the board being softened and the cloth wrinkled. No harm was done, however, in the case of stitched books, either to the paper, the ink or even the colored engravings.

Among the chemical disinfectants tried was a vapor of "formic aldehyde," in which calcium chloride had been dissolved." By means of this they obtained complete disinfection, except in the case of typhoid fever, the germs of this disease having sufficient vitality to come out of the disinfecting process unscathed.

No doubt the effect of the discovery that public library books are fertile sources of disease will have a good effect on many persons that use them. If it should have such a great influence as to put an end to the habit of turning leaves with moistened fingers the discovery would not be without practical value.

NOVEL HEADACHE CURE.

A London Physician Prescribes Cutting the Hair, and This Remedy Is Usually Successful.

The latest "cure" suggested for the relief of headache is a hair cut. A certain physician in London has met with great success lately in his treatment of persistent cases of "nervous" headaches, and he has finally disclosed the secret.

In each case, he says, after the patient had laid bare a long tale of woe—of sleepless nights and miserable days—he prescribed, briefly, a simple hair cut. It is not necessary that the hair should be cropped off short, after the fashion of convicts.

The curative property of the treatment is based on the fact that the tube which is contained in each single hair is severed in the process, and the brain "bleeds," as the barbers say, thereby opening a safety valve for the congested cranium. A commentator in the London society press, in referring to this cure, says:

"Try the cure when next attacked by headache, and, if the result be not satisfactory, rest assured that it is not the fault of the prescription, but that the head is so wooden that it wooden't act."

PLEASE! COL. WARING, SPARE THE DOGS.

Indignant Public Sentiment Lifts Its Voice Against Your Proposed New Law.

Colonel Waring, the Commissioner of Street Cleaning, has raised a question.

Colonel Waring last week sent a letter to the Mayor asking him to have a city ordinance passed to banish dogs from the city. The man who keeps our streets clean lays down this precept: "A dog in the city is a dog out of place."

Shall dogs be banished?

Do the people of New York want their dogs driven out of town?

This is Colonel Waring's argument in his letter to the Mayor:

I beg to suggest that the Honorable the Board of Aldermen be requested to adopt an ordinance restricting the liberty of dogs and of dog owners in the streets of this city.

It would be beyond my province to make any extended comment on the cruelty to the animals themselves involved in subjecting them to the restraints of city life, or on the unbecoming task of those persons, of both sexes, who lead them forth for their necessary daily outing, or on the real or imaginary danger to which they subject those timid persons who regard them as mere ferae naturae. A dog in the city is a dog out of place. His proper enjoyment of life and his owner's proper enjoyment of him require the freedom of the country. The city is no place for him, and it is made a less civilized place to live in because of him.

I remember very well when, some fifty-odd years ago, hogs ran free in the streets of New York. They were very dirty streets in those days, and the hogs were really less out of place wallowing in their offal than is the dog in the clean streets of the present time. The hog made much filth in the roadway; but by eating garbage that was generally thrown into the streets he prevented more filth than he made. The dog has no such credit side to his account. He is an unmitigated nuisance, and he ought to fall under the same ban that drove away the scavenging swine when Croton water and sewers began to make cleanliness possible.

The Journal has received several letters from its readers showing a very earnest interest in Colonel Waring's "dog" question. Here are some of them:

BANISH HORSES, TOO.

To the Journal:

"Let dogs delight
To bark and bite,
For 'tis their nature to."

And the great poet who said that might also have added, "Let dogs do other things, for 'tis their nature to." If the time has come to banish dogs because of their habits in the streets, then banish the horses, too. Which are the really greater nuisance, I should like to know? A DOG-LOVER.

DEGRADED BY DOGS! NEVER!

To the Journal:

I see that we have grown too highly civilized to associate with the dog—man's most faithful friend. We are, according to our great and wise street-sweeper, being degraded by our dogs! I am myself the degraded and uncivilized owner of a fine St. Bernard, and if it comes to an issue between dirty streets or no dogs, I want to say that I will take the dirty street, and dispense with Colonel Waring's expensive services. M. G.

SHE OWNS A PUG.

To the Journal:

I read in the Journal to-day that Mr. Waring is trying to have a law passed to forbid dogs to be owned in the city, and says they are dirty in the streets. Now, I have a pug dog as clean as any man or woman or Mr. Waring himself, and I want to know if anybody has got a lawful right to pass a law saying dogs cannot be owned in the city. Please answer. Also, does Mr. Waring own the streets? Mrs. M. J. B.

SAYS WARING IS RIGHT.

To the Journal:

It is with much pleasure that I see a movement is on foot to put a stop to the dog nuisance. There is a law forbidding people to throw paper and other rubbish and filth into our streets, and it is high time that dogs and other worthless pests be removed from this great city. The city is no place for a dog. There is no more reason for tolerating dogs than there is for allowing cows to wander about and use our thoroughfares. CLEANLINESS.

WHOM DOGS DISLIKE.

To the Journal:

A "Colonel" who coarsely abuses G. A. R. veterans, reduces the salaries of the worst-paid laborer in the city, who forces his employes to dress in a ridiculous garb that costs them money they can ill afford, might be expected to do such a ridiculous thing as to urge the extermination of our dear old friends the dogs. There is something wrong about a man that dogs dislike, and I in this instance believe that the rule works both ways. S. W. C.

THE COLONEL'S ERROR.

To the Journal:

I begin to believe that Colonel Waring is too pure, for this busy workaday world. I like to see our public officials zealous in the discharge of their duties, but zeal very often becomes fanaticism. This last break of his about dogs has about worn out my patience. Doesn't Colonel Waring know that the streets of New York are singularly free of vagrant dogs, thanks to the continued vigilance of the S. P. C. A. The dogs of New York are, as a rule, cleanly, well bred and well cared for. The Colonel has barked up the wrong tree this time. A POINTER.

SPARE THE DOG.

To the Journal:

The Napoleon of street cleaning has tackled a big job in undertaking to upset the divine economy by legislating dogs off the streets. The genial Colonel forgets that the dog is really a member of the human family. He, along with the cat and the horse, is domesticated, and being so, he is inseparable from our households. To enact that he shall not run outdoors, that he shall not gambol at his master's heels and romp with the youngsters at their play, is to deny man the indulgence of one of his deepest passions—i. e., the love of animals. Spare the dog, Colonel Waring. He is one of the few features of rural life that have survived the period before the cable car, the trolley and the general march of city improvement. You are right in saying that the dog's true home is in the country, but as between a city without dogs and a city overrun with cats, the public will prefer the dogs every time. "A dog in the city is a dog out of place," says this dog-hater. So is man out of place in a city, according to the same theory. God made the country and man made the town, and to town man has brought as many of his animal pets as he could. With them here the city is more civilized, instead of less civilized, as Waring claims. KENNEL CLUB.

To the Journal:

I see that Colonel Waring is again nosing around where he has no business to. He admits that his jurisdiction is confined to the street, and ends at the curb line. Why, therefore, does he bother with the sidewalk? All dogs use the sidewalk. None of them walk in the street. His anti-dog letter appears the week of the bench show, the unanimous verdict of which is that the ownership of dogs by New Yorkers ought to be encouraged.

A DOG CRANK.